Racial and ethnic differences in general health status and limiting health conditions among American children:

Parental reports in the 1999 National Survey of America's Families

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Abstract

Objectives: This research investigates the association between race/ethnicity and child health and examines the role of family structure, family SES, and healthcare factors in this association. Five major racial/ethnic groups in the United States are studied. Two child health outcomes including parent-rated health and limiting health condition are examined. The analysis is stratified into three age groups: age 0 to 5, age 6 to 11, and age 12 to 17.

Design: Cross-sectional study using data from a large nationally representative sample collected in 1999 in the United States.

Results: For general health, older age groups tend to exhibit larger racial/ethnic disparities. With few exceptions, minority groups showed higher risk of poor health relative to Whites among children age 6 to 17. In the youngest group (age 0 to 5), only Latinos have significant health disadvantage. As to limiting health condition, black children prior to adolescence are slightly disadvantaged, Native American adolescents are significantly more likely to have limiting conditions, whereas Asian adolescents are better off than Whites. Family SES explains some black, Latino, and Native American effects but not all; and SES does not explain the Asian effects. Family structure and healthcare factors generally do not contribute much to the racial/ethnic differences but they can have significant effects on child health in their own right. We also find that economic resources play a more salient role in child health than parental education especially in younger children. And healthcare factors to some extent explain why children from higher SES family fare better.

Conclusion: Racial/ethnic disparities in health start early in life. Except for Asians, class explains a substantial amount but not all of these disparities. Healthcare factors play a prominent role in explaining disparities by class. Structural solution is needed to reduce disparities by race and ethnicity particularly in younger children.

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INTRODUCTION

In the United States, it is evident that race or ethnicity is not only a biological marker of phenotype and ancestry but also a social designation that can be used to identify subgroups with distinctive health profiles. Numerous studies have found that ethnic minority Americans have lower self-rated health status, higher premature mortality rate, worse functional ability, and higher rates of self-reported chronic illness than Whites (National Center for Health Statistics 1995, 1996; Smaje 2000; Steinberg 1989). These disparities appear manifested throughout the entire life course (Cagney et al. 2005; Conley et al. 2003; Williams & Collins 1995).

Whereas the social/political/economic/cultural meanings of race or ethnicity have been more and more recognized (Hayward et al. 2000), pathways that can explain this pattern are not completely clear and inevitably complex. Most research indicates that differences in socioeconomic status (SES) account for a large part of the evidence but not all (Crosby et al. 2000; Krieger & Fee 1994; Lowry et al. 1996; Santelli et al. 2000; Smaje 2000). The magnitude of the explanatory power of class for racial and ethnic disparities in health varies in empirical analyses. Statistically, the reported contribution of social class to racial and ethnic disparities in health ranges from 20% to 100%, depending on how class and health are measured and which populations are compared (Baquet et al. 1991; Lieberman et al. 1987; Moss & Carver 1998; Rogers 1992). It is possible that this persistent racial or ethnic inequality in health is due to the fact that some commonly used SES indicators such as income and education do not fully capture the economic inequalities between different races (Williams & Collins 1995). So using more sophisticated measures of household economic resources may reveal stronger explanatory power

of class for the link between race/ethnicity and health. In other words, if measured sufficiently and rigorously, social class may well be the most fundamental cause of racial/ethnic inequalities in health.

To push through this race-class debate we need more studies to test whether SES (if amply measured) accounts for all racial/ethnic disparities in health in today's America. In this endeavor, experiences of younger cohort, say, children born after 1980 are favored for at least two reasons. First, the overt and legal racial/ethnic oppression in the U.S. had been ended long before they were born, and if class has eclipsed race as the key determinant of life chances it should manifest strongly in this young generation. Second, reverse causation (i.e., health influences social class) is less of a problem on this post-1980 cohort insofar as the key research question focuses on the effect of parental class background on health in a general population of children and adolescents.

While race and class seem to be tightly intertwined, the observed racial and ethnic differences in health may yet reflect group differences in other areas. For example, factors such as lifestyle, living arrangements, psychological status, racism, and access to and satisfaction with healthcare services have been reported as possible mediators underlying the association between race/ethnicity and health (Clark & Maddox 1992; Collins & Williams 1999; Ferraro 1993; Harris 2004; Mutchler & Burr 1991; Smaje 2000; Smedley et al. 2003; Stevens & Shi 2003; Wallace 1990; Williams & Collins 1995).

Some of the advantages often associated with being white are to some extent a function of family structure (McLanahan & Sandefur 1994). Controlling for family SES, the protective effect of intact family structure on children's well-being including health has been vividly illustrated in previous research (Bronte-Tinkew & DeJong 2004; Halfon & Newacheck 1999; Lalloo et al. 2003; Lund et al. 1998; McLanahan 1997; McLanahan & Sandefur 1994; Newacheck & Halfon 1998). Over the past two decades, there has been a demographic trend of rapidly increasing prevalence of

out-of-marriage child-bearing and family dissolution which often results in single parent households and stepfamilies (Fields & Casper 2001). And some minority groups suffer disproportionately higher rates of family dissolution that often goes hand in hand with financial hardship (Ellwood & Jencks 2004; Wilson 1987, 1996). If intact family (i.e., children living with two adoptive or biological parents) produces a considerable health advantage, then a higher rate of non-intact family structure among some ethnic minorities may be a key component in the causal chain explaining racial and ethnic disparities in health.

Racial and ethnic disparities in health may also partially reflect group differences in access to and quality of medical care. Evidence of racial and ethnic disparities in health care is, with few exceptions, remarkably consistent across a range of illnesses and healthcare services (Smedley et al. 2003). Racial and ethnic minorities experience more barriers to care (Haviland et al. 2005; Keith et al. 2005; Seid et al. 2003Shi, 2005 #211; Weech-Maldonado et al. 2001). On the global level, these disparities diminish significantly when socioeconomic factors are controlled, suggesting that the race-healthcare link may be substantially mediated by structural inequality (Kressin & Petersen 2001; Mayberry et al. 2000). However, racial and ethnic background can also affect healthcare services independently of SES, as documented in the recent IOM report (Smedley et al. 2003). A recent review (Elster et al. 2003), including 31 studies that analyzed racial/ethnic disparities in primary care and/or ambulatory health care services for mental health, reproductive health, and asthma in children and adolescents, suggests that racial and ethnic disparities, independent of SES, exist in selected areas of child health care; and the pattern is stronger for black than for Latino youth. Other factors such as racism may also contribute to the unequal treatment in health care; therefore, access to and satisfaction with healthcare services may operate as additional pathways linking race/ethnicity and health in American children.

While relatively more studies have focused on adult health in detecting and explaining racial/ethnic disparities in health, it is entirely plausible that racial/ethnic disparities in health start from early stages of life. The life course perspective argues that differences in intrauterine development and health markers in early life play a significant role in contributing to social inequalities in health across the life span (Blane 1999; Shaw et al. 2004). In fact, extant research has shown that early life health markers such as low birthweight are significant predictors of infant mortality, physical growth in childhood, and a variety of health outcomes in adult life (Barker 1998; Dolk et al. 2001; Eriksson et al. 2000, 2000). It is likely, therefore, that individual risk factors for poor health are pronounced among racial and ethnic minorities starting from the origin of life and reinforcing one another throughout one's life span.

The persistent gap in health between ethnic minority populations and white Americans pose moral and ethical dilemmas that challenge health systems and professionals (Smedley et al. 2003). The federal *Healthy People 2010* initiative has established an overarching goal of eliminating health disparities across social-demographic groups (National Center for Health Statistics 2000). One crucial step in the process of achieving this goal is to advance our understanding of the causes of disparities in health starting from early life.

However, research on racial and ethnic disparities in child health is not adequate. And earlier work mostly focused on black-white disparities. While more recent studies have growingly included Latino groups in the analysis (Federal Interagency Forum on Child and Family Statistics 2003), Asians and Native Americans have received very little attention within the health stratification literature. The field can benefit from additional work that includes Asian and Native-American children in examining racial/ethnic variations in health.

The current research aims to document racial and ethnic disparities in health and explore the mechanisms underlying these disparities early in life. We attempt to extend previous work by

focusing on American children in five major racial and ethnic groups (non-Latino Whites, non-Latino Blacks, Latinos, Asians, and Native Americans), stratified by three age groups (i.e., early childhood, middle childhood and adolescence), and hierarchically testing several prominent factors of child health through analyzing high quality recent data from a nationally representative survey of a large sample of nearly 40,000 children.

RESEARCH QUESTIONS

Specifically, we have three research questions.

1. Race/ethnicity, family structure, and child health. *How does family structure affect child health and contribute to racial/ethnic disparities in child health?*

   We hypothesize that intact family is positively associated with child health and some of the effect remains after controlling for family class background. We also expect that family structure explains a portion of racial/ethnic disparities in child health.

2. Race/ethnicity, class, and child health. *How do family SES factors affect child health and contribute to racial/ethnic disparities in child health?*

   We expect that family social and economic resources are protective; the effect of race/ethnicity on health can be largely explained by family class background after controlling for family structure, yet a unique racial/ethnic effect is visible.

3. Race/ethnicity, healthcare factors, and child health. *How do healthcare factors such as access to and satisfaction with health care affect child health and contribute to racial/ethnic disparities in child health?*

   We propose that both access to and parental satisfaction with quality of medical care are important factors for child health and contribute to racial and ethnic disparities in child health in addition to family structure and SES.

METHOD

Data

We use data from the 1999 National Survey of America's Families (NSAF) to test these hypotheses. The NSAF is a representative national survey of a noninstitutionalized, civilian population of persons under age 65 in the United States. The NSAF provides comprehensive quantitative measures of child, adult and family well-being in America. Children age 17 or younger are included in the current study. In households with children under the age of 18, up to two children were sampled for in-depth study: one under the age of 6 and another between the age of 6 and 17. Interviews were conducted with the adult in the household who was most knowledgeable about the health, health care, education, and well-being of the sampled child (usually the mother). With an exceptionally large sample size, the survey affords an excellent opportunity to comprehensively study the well-being of American children in different racial and ethnic groups. Detailed survey descriptions have been published elsewhere (Assessing the New Federalism 1997 1999 2002).

Measures

Dependent variables

Two health measures are used as the dependent variables. Current health status is measured by a *parent-rated health* item. Parent-rated health is a useful and convenient measure of general child health status especially given that children are generally healthy and have relatively low prevalence of severe illness and chronic conditions. In addition, perceived health status reported by the parent has been used in previous research that has found similar patterns of social inequalities in health among children compared to studies using more objective measures of health (Montgomery et al. 1996; Newacheck & Starfield 1988; Starfield 1991).

In the NSAF, parents were asked, "In general, would you say (CHILD's) health is excellent, very good, good, fair, or poor?" This variable taps the child's general health status as perceived by the parent. A higher score indicates better health. The distribution of this variable is highly skewed. We dichotomize this variable into fair or poor versus excellent, very good, or good and use this binary outcome as one of the two dependent variables.

A limiting health condition variable is constructed based on parental responses to the question asking specifically whether the child has a physical, learning, or mental health condition that limits his/her participation in the usual kinds of activities done by most children his/her age or limits his/her ability to do regular school work. This variable captures several dimensions of child well-being and is more indicative of serious health problems than parent-rated general health status. The variable is dichotomized with a value of 1 indicating children with *limiting health condition*.

The two health variables are significantly and positively correlated in each of the racial/ethnic group ($p<0.0001$).

Independent variables

Race or ethnicity is measured by a categorical variable indicating non-Latino Whites, non-Latino Blacks, Latinos, Asians, and Native Americans. Mixed race children are not classified in the NSAF.

Family class background is measured by the poverty income ratio (PIR) and several additional measures of family SES. PIR is a ratio where the numerator is a family's household income and the denominator is the appropriate poverty threshold (federal poverty level -- FPL) given the family's size and composition. Poverty thresholds are revised each year by the Census Bureau. Thus a FPL of less than 100% indicates that the household is living below the poverty

threshold. Three groups of the PIR are used to capture family income: below poverty, 100%-200% poverty, and above 200% poverty line (reference) in 1998.

Two specific measures of living conditions are constructed. *Financial hardship* captures food and/or housing insecurity. The variable is coded 1 if the children's family had to worry whether food would run out or food bought didn't last, had to cut/skip meals for the lack of money, were unable to pay rent in the last year or had to move in with other people last 12 months. *Housing crowdedness* is measured by the number of persons per bedroom.

House ownership is measured by an item indicating whether the house is owned by a family member in the household.

Parental Education is measured by the highest grade or level of school achieved by the parent that has higher education. There are twelve categories in this variable ranging from 8^{th} grade or less (1) to graduate/professional degree (12). In our sample, mother's education and father's education are highly correlated ($r=0.78$; $p<0.0001$).

Family structure is measured by a dichotomous indicator of intact family (i.e., living with two biological or adoptive parents) versus other arrangements (i.e., single-parent family or blended family).

Health insurance coverage is used to assess *access to health care*. The variable is categorized into 'not insured,' 'public insurance,' and 'employer/private insurance'. *Perceived satisfaction with quality of medical care* is measured by the responses (on a five-point Likert scale ranging from 'strongly dissatisfied' to 'strongly satisfied') to the following statement: "How satisfied are you with the quality of medical care your family has received during the last 12 months?" Higher scores indicate higher levels of parents' satisfaction with medical care received by their family.

Analytical Strategy

Weighted Logit regression models are used to examine parent-rated fair/poor health and limiting health condition. Taking the complex design of the NSAF into account, all the analyses produce inferences applicable to American children nation-wide. STATA 8's SVY commands are used to perform the weighted analyses.

We grouped children age 0 to 5 (early childhood), children age 6 to 11 (middle childhood), and children age 12 to 17 (adolescence) together in order to compare the patterns in the three age groups. We have two considerations for this strategy. First, early childhood may differ than middle childhood and adolescence in terms of the role of social environment in contributing to child developmental outcomes. For example, while discrimination may be a salient and depressing factor in older children through impairing child self-esteem and self-worth, discrimination is not likely to be a big risk factor psychologically hurting for very young children. It would be interesting to see whether and how racial/ethnic disparities in health differ according to different stages of childhood and how social factors are associated with this phenomenon differentially across stages of development. Second, methodologically, the stratifying strategy is necessary. By study design, up to two children from the same family were sampled into the survey. But in each age group (0-5 versus 6-17), only one child was sampled from each family. Thus, in the stratified analysis, we can avoid the biased standard errors due to clustering within households and focus on dealing with complex study design including weighting issues when performing hypothesis testing.

For the three age groups and the two dependent variables, the same analytical strategy is imposed, following an identical hierarchical structure testing the progressive explanatory power of family structure, family SES, and healthcare factors for the association between race/ethnicity and child health. Model 1 is the baseline model with age, sex, nativity (US-born vs. foreign-born), and

dummy variables indicating four racial and ethnic groups included. This model is aimed to document the patterns of racial or ethnic inequalities in health across the five major racial/ethnic groups in the US. Non-Latino White is the reference group. Model 2 adds family structure to the model. Model 3 tests the additional effects of family SES variables including the Poverty Income Ratio, financial hardship in food and rent, housing crowdedness, house ownership, and parental education. Model 4 further adds the two healthcare factors (i.e., access to and satisfaction with health care) to model 3; it is the most inclusive model simultaneously testing all the social environmental factors in the study hypothesized as mediators of the link between race/ethnicity and child health.

RESULTS

Descriptive statistics for the entire sample and samples of each racial and ethnic group are illustrated in Table 1. Non-Latino Whites constitute the largest group and the Native American group is the smallest. Overall, the white group enjoys visible health advantage over other racial/ethnic groups when child health is evaluated by parental responses to the general child health item. Figure 1 depicts how means of parent-rated health differ by racial/ethnic groups and by age. As for limiting health condition, only Native American children show striking disadvantage compared with white children; other ethnic groups have comparable rates with Asians having a slightly lower rate than Whites. The Asian group is remarkably advantaged in terms of family structure. For example, about 94% of Asian children live with either two biological parents or adoptive parents versus 74% Black and 87% white children living in intact families. In terms of family class background or SES, the advantage of Whites is obvious and consistent across different measures of class, particularly relative to non-Asian minorities. White children have the highest level of family income and are the most likely to live in a family owned house. They are also the least likely to have a hard time paying for food and/or rent in the past

year or live in a crowded house. Asians have the most educated parents among the five groups, are comparable to Whites in the likelihood of experiencing financial hardship, and are generally better off in terms of family SES than the other three minority groups. Asian children also have the highest rate of having private or employer insurance (comparable to that of Whites) but their parents generally are less satisfied with quality of medical care than white and black parents. Among all racial and ethnic groups, Latino group on average has the lowest level of family SES in terms of family income, housing crowdedness, house ownership, and parental education. It is also the second worst off group in terms of financial hardship in food and rent and having either no insurance or public insurance.

(Table 1 about here)

Tables 2, 3, and 4 present findings for parent-rated fair/poor health in the three age groups. The health disadvantage of ethnic minorities is clearly shown in Figure 2. The largest gap appears between Native Americans and Whites in adolescence.

Specifically, in the youngest age group (0-5), controlling for age and gender (Model 2.1, Model 2 in Table 1), Latino young children have a significantly higher rate of fair or poor parent-rated health than Whites (OR=3.64; $p<0.001$), and Asian children have a marginally significant lower rate of fair or poor health (OR=0.42; $p=0.072$). Other minority groups do not seem to have statistically significant health disparities. Family structure is not a risk factor and does not account for the race/ethnicity effect (Model 2.2). By contrast, family SES, particularly poverty status, exhibits a strong impact on child health and explains about 36% of the Latino effect (from Model 2.2 to 2.3). Meanwhile, healthcare factors offer little explanatory power for the disadvantage of Latino children in parent-rated health (Model 2.4), but they are strongly associated with child health independently of family SES. Interestingly, the model shows that having no insurance is not as bad as having public insurance, and this pattern surfaces again later in the older age groups

and for both health measures. However, this finding should be interpreted with caution. By no means does this result indicate that public health insurance *causes* poorer health in children. While causal directions can not be sorted out in this cross-sectional study, it is conceivable that a stronger association between public insurance and poor health status possibly reflects the tendency of lower SES parents who have children with suboptimal health toward more actively seeking help from public insurance programs such as Medicaid Medically Needy Program and Children's Health Insurance Program. So there is probably a selection issue here.

(Table 2 about here)

Table 3 focuses on children age 6 to 11. The results are similar to those found for younger Latino children; that is, Latino children are more likely to have fair/poor health (OR=3.63; $p<0.001$; Model 3.1); nearly 40% of this effect is explained by family SES alone (Model 3.2 to 3.3) while family structure and healthcare factors do not contribute to this effect (Model 3.1 to 3.2 and Model 3.3 to 3.4). The pattern is very different for Asian children between the two age groups, however. While Asian children in early childhood show a possible advantage (Model 2.1), Asian children in middle childhood feature a striking disadvantage relative to whites (OR=5.67; $p=0.065$; Model 3.1) and the effect is even strengthened when family SES is controlled (OR=6.99; $p=0.021$; Model 3.3). Healthcare factors can explain some of the Asian effect after controlling for family structure and SES. From Model 3.3 to Model 3.4, the effect of Asian group is reduced 30%.

(Table 3 about here)

Table 4 presents results for adolescents. For these older children, the advantage of white children in parent-rated health is more visible. Model 4.1 shows that all minority groups exhibit poorer parent-rated health controlling for age, gender, and nativity, although the effect of black is not statistically significant and the Asian effect is only marginally significant ($p=0.093$). Family

structure is not significant and does not explain the racial/ethnic effects among adolescents (Model 4.2). For black, Latino and Native American adolescents, family SES plays an appreciable role in contributing to their health disadvantage. From Model 4.2 to 4.3, with the inclusion of family SES variables, the coefficients of black, Latino and Native American groups are reduced 26%, 40% and 22%, respectively. Nonetheless, a considerable amount of residual effect of race/ethnicity remains over and above family SES. According to Model 4.3, for example, after controlling for age, gender, nativity, family structure, and a set of family SES indicators, the Latino effect is still considerable and statistically significant (OR=3.34; $p<0.001$), so is the effect of Native American group (OR=8.79; p=0.022). Moreover, family SES has no explanatory power for Asian adolescents' poorer parent-rated health. In fact, controlling for family SES, the effect of Asian ethnicity is strengthened with an increase of 39% (from Model 4.1 to Model 4.3). Further controlling for health insurance or satisfaction with quality of medical care does not help account for these residual race/ethnicity effects net of family structure and SES. However, satisfaction with quality of medical care is a significant covariate of parent-rated health in its own right.

(Table 4 about here)

Table 5, 6, 7 present results for limiting health condition in the three age groups. We exclude US-born from the analysis of limiting health condition among children age 0 to 5 because there are only four (out of 177) foreign-born children reported having limiting health condition. Other models include US-born. For children age 0 to 5 (OR=2.414; p=0.098) and age 6 to 11 (OR=2.04; p=0.073), Blacks are more likely to report having limiting health condition relative to whites (Model 5.1 and 6.1 respectively). Family structure, family SES, and healthcare factors are all significant covariates of health condition in childhood. Family SES explains about 13% (from Model 5.2 to 5.3) and 28% (from Model 6.2 to 6.3) of the black effect for children age 0 to 5 and age 6 to 11 respectively. Family structure explains 20% (from Model 5.1 to 5.2) of the black

effect in the youngest group but not much of the effect in the older age groups. Healthcare factors do not account for the race/ethnicity effect.

The pattern for adolescents is different (Table 7). No significant disparities are detected for Blacks and Latinos. Asians are showing health advantage (OR=0.29; p=0.011; Model 7.1); and the effect is not mediated by family structure (Model 7.2), nor by SES (Model 7.3), or by healthcare factors (Model 7.4)—a similar pattern observed in the youngest age group for parent-rated health. Native American adolescents are more likely to report having limiting health condition; and jointly family and healthcare factors explain 26% of this effect.

(Table 5, 6, 7 about here)

A side finding worth reporting is that the effect of family poverty status can be largely explained by healthcare factors except for health condition among adolescents. This result is consistent with recent evidence showing that lacking health insurance is one of the most prominent pathways linking status attainment to adult health (Quesnell-Vallée 2005). The current research confirms that this pattern may also hold for children. The reduction in the coefficient of family income ranges from 11% to 52% across the two health outcomes and the three age groups (see the changes in the coefficient of PIR from Model 3 to Model 4 in Table 2 through Table 6).

A detailed examination of the family SES effects also reveals that family economic resources seem to have a stronger effect than parental education on child health. This is particularly true for younger children. Parental education is an important protective for adolescent health (OR=0.89; p=0.002; Model 4.3), but is not a significant covariate for younger children's health when other socio-demographic factors are present.

DISCUSSION

The main purpose of this study is to document racial and ethnic disparities in health and explore the underlying mechanisms in American children. Previous work often focused on the

white-black gap when debating over race-class explanations for health disparities (Conley et al. 2003). Using data from a recent nationally representative sample, this research examined five major racial and ethnic groups in the U.S. and tested whether family structure, family SES, health insurance, and satisfaction with quality of medical care contribute to the link between race/ethnicity and child health.

Consistent with previous research, we found significant effects of race/ethnicity, family structure, family SES, and access to and satisfaction with quality of medical care on child health as measured by parent-rated general health and limiting health condition. However, the magnitude of these effects varies according to children's age, race/ethnicity, and health measures used in the analysis.

For general health, older age groups generally exhibited larger racial/ethnic disparities in parent-rated health relative to the youngest group, perhaps due to their longer exposure to disadvantaged life circumstances. With few exceptions, all four minority groups showed lower levels of parent-rated health relative to Whites (see Figure 1 and 2). And family SES explained some effects of black, Latino, and Native American groups but not all.

In this research, we used multiple measures of family SES in an attempt to better capture family social class background and financial resources available to the child. Our family income measure included not only total family earnings by employment but also a wealth of sources of income the family received in the previous year including earnings from family liquid or real estate assets. PIR was then constructed based on this family income measure and used in the analysis. Because this study is concerned with social contexts of child poor health, and because poor health and limiting conditions are relatively rare in children, children's general health is possibly more responsive to extreme economic hardship which can be better captured by family poverty status (PIR). In addition to the poverty measure, we used house ownership, financial

hardship in food and rent, and housing crowdedness to further tap the child's family economic resources. We also used parental education as a separate dimension of family SES. The data showed that economic resources generally played a more salient role in child health than parental education. This finding suggests that material deprivation might be a stronger risk factor of health problems among children than family psychosocial factors which are typically linked to parental education. Nevertheless, the significant effect of parental education on adolescent general health, net of other socio-demographic factors including family economic resources, points to the importance of psychosocial factors for adolescent development. These results indicate that using multiple measures of family class background and stratifying analysis by age may be necessary, for it can help reveal age patterns in the race-health link and detect nuanced differences in the effects of different dimensions of SES on child health.

In addition to family SES, we also examined whether family structure (intact family versus others), insurance status (no insurance, public insurance, private insurance), and satisfaction with quality of medical care contribute to racial/ethnic disparities in child health. We found family structure and healthcare factors could not explain racial/ethnic differences in child general health as rated by the parent, except for Asian children age 6 to 11. Why healthcare factors matter particularly for parent-rated health in this age group of Asians is intriguing and needs to be further examined.

Here it is noteworthy that parent-rated health is a measure based on the parent's overall perceptions of the child's general health. While self-rated health, a frequently used health measure whose validity and reliability has been thoroughly examined and corroborated (Gallo & Matthews 2003; Idler & Benyamini 1997; Wulsin et al. 1999), parent-rated health for children as a survey instrument has not been subject to rigorous psychometric testing. Moreover, cross-cultural validity assessments of the self-rated health measure merit further exploration. Previous work

indicates that the predictive capacity of self-rated health is comparable for Latinos, African Americans, and Whites (Finch et al. 2002; Gibson 1991). Whether these results equally hold for parent-rated health for children is unknown. Also unknown is whether combining categories of this measure, as what we did in this study, improves its reliability and validity across groups. Presumably, such strategy may reduce cultural differences in psychometric properties of this measure because dichotomized measures afford sharper contrast in item responses; but these expectations need to be empirically tested. In addition, future work should incorporate Asians into research design given that Asians have become one of the fastest growing populations in America, that they are disadvantaged in many measures yet widely viewed as "honorable Whites" (Louie 2004), and that they tend to be left out in previous research of racial/ethnic disparities in health.

As for limiting health condition, a health measure intended to be more indicative of serious physical, learning, and mental problems and highly correlated with parent-rated health, only Native American adolescents showed statistically significant disadvantage over Whites; and this difference is to some extent reduced by family SES but not by family structure or healthcare factors. Except for Asian adolescents, other minority groups are more or less comparable to Whites in the risk of having limiting health condition, although black children seem slightly disadvantaged in pre-adolescence stage. This relatively less racial/ethnic disparity in limiting health condition than in general health among children age 0 to 17 suggests that American youths in different ethnic groups do not start much differently in terms of *severe* health and learning problems. It thus lends some credence to the idea that the observed large differences in morbidity and mortality across racial/ethnic groups in adulthood are due to cumulative disadvantage minority groups experience over the life course (Berkman & Kawachi 2000).

While intact family structure was not a significant factor for general health, it was highly protective against the risk of having limiting health conditions in all age groups. So the injurious

effect of non-intact family structure may be more manifested in more severe conditions including not only physical problems but also emotional and psychological dysfunctions that limit the child's routine activities. Family structure also accounted for a small portion of the black effect (20%) in the youngest age group, suggesting that black infants, toddlers, or pre-schoolers were indeed negatively impacted by their higher risk of living in non-intact families and this disadvantage partly explained why they are more likely to have a severe condition that limits their routine activities.

One interesting finding is that while the effect of black group was positive on both parent-rated fair/poor health and liming health condition in both age groups, the black-white difference was not statistically significant at the 5% level in most cases. In other words, in this research, we found that black-white health disparity was smaller than that for other minority groups at least in some occasions. This result indicates that it is necessary to include other minority groups when investigating racial/ethnic disparities in health insofar as comparing Whites only with Blacks may underestimate the extent of the problem that minority groups are suffering from worse health than Whites.

We did not find answers to health disparities regarding Asians. Whereas dissatisfaction with quality of healthcare explained some of the disadvantage of Asian children in middle childhood (age 6 to 11), family structure, SES, and healthcare factors can explain neither their advantage in general health among the youngest group or in limiting health condition among adolescents nor their disadvantage in general parent-rated health among adolescents. Asian Americans are an extremely diverse group of peoples, originating from almost fifty different countries. Perhaps we need to disaggregate Asian group and consider additional pathways so as to further understand how Asian children fare compared to Whites in different stages of childhood and adolescence.

Another important finding is that whereas healthcare experiences do not play a substantive role in racial and ethnic inequalities in child health, they do make a pivotal contribution to the link between poverty and health among children. On the one hand, this evidence suggests that for the time being, healthcare factors are significant mechanisms linking parental status attainment to child health. And providing equal access to health care and quality care for all children in the United States can potentially reduce health disparities by family economic resources to a large extent. On the other hand, race and ethnicity seems to represent some aspects of life circumstances that are unique to ethnic minority status and are not necessarily related to structural arrangements in the social stratification system. That is, class, captured by measures of economic and educational resources, has not completely eclipsed race in producing social inequalities in health. Moreover, as implied in some of the results of our stratified analysis by age, the racial/ethnic gap in health is possibly widening throughout the life course.

These findings should be interpreted with caution, however. The two health measures used in this study are based on parents' reports rather than physician-based health evaluations. The research would be strengthened if more objective health measures were to be used and the same patterns emerged. Relative to our class-related measures, our healthcare measures are simple with only health insurance status and parent-reported satisfaction with health care included in the study. Quality of health care is not directly examined but only implicitly tapped through examining perceived satisfaction with quality of medical care. Studies are needed to further explore whether more sophisticated measures of healthcare experiences present stronger explanatory power for racial/ethnic disparities in child health.

We used a cross-sectional design to examine the association between race/ethnicity and health in children and the contribution of social positions to this link, assuming a causal effect of family class background on child health. Reverse causation is not as big a problem in this general

population of youth as for adult health, although to some extent child health problems do distract parents from work and can thus negatively affect family earnings. Longitudinal studies could examine more dynamic questions seeking sources of and solutions to the persistent racial/ethnic disparities in health which probably even start at the prenatal stage.

The United States has evolved to be a truly multi-ethnic nation. In the last two decades, Latino and Asian populations are growing fast, sharply increasing the demand for understanding the health needs and experiences of these more recent minority groups. Yet our understandings of their needs and experiences are limited. It requires more qualitative and quantitative studies to delineate a fuller picture of how race/ethnicity, health, and other social factors are intertwined and how these associations are changing over time. The challenge is to uncover the reasons for racial/ethnic disparities in health at young age and to develop effective solutions to eliminate or at least reduce the inequalities before they turn into a vicious circle of poor health causing and being caused by poor social conditions—a trap disadvantaging many low-SES minority children in various facets of their lives in the United States.

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Table 1. Sample Descriptive Statistics for Variables in the Models

	All		White		Black		Latino		Asian		Native-American	
	Mean /Proportion	St dev.	Mean /Proportion	St dev.	Mean /Proportion	St dev.	Mean /Proportion	St dev.	Mean /Proportion	St dev.	Mean /Proportion	St dev.
Health												
Parent-rated Fair/Poor Health	0.032	0.175	0.023	0.149	0.040	0.196	0.077	0.267	0.035	0.183	0.080	0.272
Limiting Health Condition	0.080	0.272	0.081	0.273	0.081	0.273	0.072	0.259	0.056	0.230	0.221	0.415
Control Variables												
Age	8.649	5.319	8.832	5.331	8.731	5.270	7.585	5.182	8.200	5.214	9.000	5.062
Male	0.512	0.500	0.515	0.500	0.501	0.501	0.501	0.500	0.499	0.500	0.550	0.498
US Born	0.972	0.165	0.993	0.082	0.976	0.154	0.883	0.322	0.770	0.421	1.000	0.000
Family Structure												
Intact Family	0.856	0.351	0.868	0.339	0.736	0.441	0.838	0.368	0.942	0.234	0.732	0.444
Parental SES												
Family Income*												
Below FPL	0.075	0.264	0.050	0.218	0.128	0.334	0.191	0.393	0.071	0.257	0.163	0.370
100%-200% FPL	0.182	0.386	0.151	0.358	0.256	0.436	0.332	0.471	0.134	0.341	0.309	0.463
200% FPL or above	0.743	0.437	0.799	0.401	0.616	0.486	0.477	0.500	0.795	0.404	0.528	0.500
Financial Hardship (food & rent)	0.249	0.432	0.204	0.403	0.411	0.492	0.423	0.494	0.203	0.403	0.459	0.499
Housing Crowdedness (# of persons per bedroom)	1.436	0.673	1.346	0.466	1.579	0.626	1.874	1.285	1.498	0.682	1.560	0.587
House Ownership	0.773	0.419	0.831	0.375	0.591	0.492	0.546	0.498	0.691	0.462	0.638	0.481
Parental Education**	7.022	3.078	7.341	2.940	6.427	2.864	5.152	3.237	8.688	2.875	6.116	2.907
Insurance Status												
No Insurance	0.086	0.281	0.062	0.241	0.104	0.306	0.221	0.415	0.049	0.215	0.229	0.421
Public Insurance	0.094	0.292	0.070	0.255	0.164	0.371	0.195	0.396	0.082	0.275	0.199	0.400
Private Insurance	0.820	0.385	0.868	0.338	0.731	0.443	0.583	0.493	0.869	0.333	0.572	0.495
Satisfied with Quality of Medical Care	4.332	0.970	4.376	0.941	4.233	1.008	4.167	1.072	4.168	0.968	4.141	1.188
Sample Size	39,230		30,073		2,689		5,039		1,067		362	

* FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.

** Parental education is measured by the highest grade or level of school achieved by the parent that has higher education. For example, value '2'=10th or 11th grade, 5='high school diploma,' 7'="voc/tech/business certificate or diploma,' and '10'='bachelor degree'.

Table 2: Effect of Race/Ethnicity on Parent-rated Fair/Poor Health (Age 0-5)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	2.731	2.248	1.998	1.574
	(0.627 - 11.902)	(0.690 - 7.327)	(0.626 - 6.379)	(0.647 - 3.826)
Latino	3.641***	3.592***	2.302***	2.249***
	(2.228 - 5.951)	(2.182 - 5.913)	(1.444 - 3.672)	(1.400 - 3.615)
Asian	0.416*	0.393*	0.504	0.530
	(0.160 - 1.085)	(0.144 - 1.074)	(0.171 - 1.481)	(0.186 - 1.507)
Native	1.569	1.595	1.052	1.066
	(0.333 - 7.405)	(0.339 - 7.499)	(0.177 - 6.233)	(0.177 - 6.431)
Control Variables				
Age	0.911	0.881	0.885	0.914
	(0.742 - 1.119)	(0.692 - 1.120)	(0.712 - 1.102)	(0.774 - 1.078)
Male	1.058	1.070	1.139	1.178
	(0.575 - 1.945)	(0.595 - 1.922)	(0.649 - 1.998)	(0.690 - 2.009)
US-born	0.438	0.396	0.453	0.408
	(0.117 - 1.642)	(0.101 - 1.545)	(0.109 - 1.885)	(0.096 - 1.733)
Family Structure				
Intact Family		0.327*	0.380*	0.514
		(0.097 - 1.096)	(0.120 - 1.204)	(0.226 - 1.171)
Family SES				
Below FPL[a]			1.847	1.337
			(0.847 - 4.029)	(0.580 - 3.080)
100%-200% FPL[a]			2.522***	1.966**
			(1.318 - 4.825)	(1.046 - 3.693)
Financial Hardship			1.648*	1.468
(food & rent)			(0.938 - 2.895)	(0.868 - 2.483)
Housing Crowdedness			1.078	1.079*
			(0.964 - 1.206)	(0.985 - 1.181)
House Ownership			1.496	1.583*
			(0.810 - 2.763)	(0.944 - 2.654)
Parental Education[b]			0.946	0.956
			(0.866 - 1.033)	(0.875 - 1.045)
Healthcare Factors				
No Insurance				1.198
				(0.501 - 2.864)
Public Insurance				2.255***
				(1.264 - 4.024)
Satisfied with Quality				0.710***
of Medical Care				(0.573 - 0.880)

N=13,169; Odds ratios are presented; 95% confidence intervals in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.
b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

Table 3: Effect of Race/Ethnicity on Parent-rated Fair/Poor Health (Age 6-11)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	1.836	1.766	1.179	1.098
	(0.528 - 6.382)	(0.544 - 5.733)	(0.457 - 3.039)	(0.423 - 2.853)
Latino	3.627***	3.558***	2.137**	1.971**
	(2.003 - 6.567)	(1.959 - 6.463)	(1.150 - 3.969)	(1.092 - 3.559)
Asian	5.671*	5.831*	6.985**	4.898***
	(0.897 - 35.854)	(0.922 - 36.867)	(1.354 - 36.033)	(1.485 - 16.149)
Native	0.714	0.682	0.441	0.356
	(0.180 - 2.831)	(0.171 - 2.717)	(0.096 - 2.030)	(0.074 - 1.725)
Control Variables				
Age	1.112	1.106	1.130	1.107
	(0.881 - 1.403)	(0.874 - 1.399)	(0.913 - 1.398)	(0.916 - 1.338)
Male	1.885**	1.903**	2.001**	1.885**
	(1.067 - 3.332)	(1.071 - 3.384)	(1.136 - 3.526)	(1.141 - 3.112)
US-born	1.551	1.506	2.339	1.850
	(0.513 - 4.686)	(0.492 - 4.611)	(0.772 - 7.079)	(0.717 - 4.771)
Family Structure				
Intact Family		0.726	0.891	0.951
		(0.382 - 1.380)	(0.493 - 1.613)	(0.517 - 1.750)
Family SES				
Below FPL[a]			3.169**	1.686
			(1.329 - 7.556)	(0.553 - 5.143)
100%-200% FPL[a]			1.743	1.420
			(0.632 - 4.807)	(0.467 - 4.319)
Financial Hardship			1.470	1.142
(food & rent)			(0.839 - 2.576)	(0.618 - 2.111)
Housing Crowdedness			1.347	1.282
			(0.818 - 2.217)	(0.855 - 1.922)
House Ownership			1.247	1.369
			(0.616 - 2.526)	(0.672 - 2.786)
Parental Education[b]			0.970	0.988
			(0.888 - 1.060)	(0.917 - 1.065)
Healthcare Factors				
No Insurance				1.593
				(0.686 - 3.696)
Public Insurance				4.383***
				(1.635 - 11.751)
Satisfied with Quality				0.743**
of Medical Care				(0.582 - 0.949)

N=12109; Odds ratios are presented; 95% confidence intervals in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.

b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

Table 4: Effect of Race/Ethnicity on Parent-rated Fair/Poor Health (Age 12-17)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	2.247	2.228	1.653	1.614
	(0.825 - 6.120)	(0.825 - 6.017)	(0.620 - 4.406)	(0.629 - 4.141)
Latino	5.604***	5.587***	3.336***	3.424***
	(3.429 - 9.160)	(3.435 - 9.086)	(1.971 - 5.646)	(2.070 - 5.664)
Asian	2.142*	2.152*	2.983**	2.971**
	(0.876 - 5.239)	(0.883 - 5.242)	(1.158 - 7.683)	(1.156 - 7.636)
Native	11.451***	11.256**	8.789**	9.472**
	(1.902 - 68.926)	(1.730 - 73.246)	(1.381 - 55.954)	(1.364 - 65.778)
Control Variables				
Age	1.006	1.006	0.996	0.992
	(0.866 - 1.169)	(0.866 - 1.169)	(0.859 - 1.156)	(0.855 - 1.151)
Male	1.206	1.205	1.223	1.183
	(0.770 - 1.889)	(0.772 - 1.880)	(0.786 - 1.902)	(0.757 - 1.850)
US-born	0.703	0.702	0.864	0.816
	(0.339 - 1.456)	(0.339 - 1.457)	(0.366 - 2.040)	(0.346 - 1.923)
Family Structure				
Intact Family		0.936	1.106	1.116
		(0.485 - 1.807)	(0.592 - 2.068)	(0.591 - 2.107)
Family SES				
Below FPL[a]			1.558	1.221
			(0.805 - 3.016)	(0.638 - 2.336)
100%-200% FPL[a]			0.984	0.872
			(0.556 - 1.740)	(0.476 - 1.597)
Financial Hardship			2.479***	2.249***
(food & rent)			(1.558 - 3.944)	(1.390 - 3.641)
Housing Crowdedness			1.032	1.039
			(0.934 - 1.140)	(0.947 - 1.139)
House Ownership			1.099	1.176
			(0.613 - 1.970)	(0.648 - 2.134)
Parental Education[b]			0.878***	0.890***
			(0.821 - 0.940)	(0.827 - 0.958)
Healthcare Factors				
No Insurance				1.169
				(0.642 - 2.128)
Public Insurance				1.890
				(0.858 - 4.163)
Satisfied with Quality				0.781**
of Medical Care				(0.640 - 0.954)

N=13952; Odds ratios are presented; 95% confidence intervals in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.
b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

Table 5: Effect of Race/Ethnicity on Limiting Health Condition (Age 0-5)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	2.414*	1.938	1.694	1.522
	(0.845 - 6.894)	(0.810 - 4.636)	(0.695 - 4.133)	(0.750 - 3.088)
Latino	0.995	0.984	0.570	0.535*
	(0.552 - 1.791)	(0.539 - 1.796)	(0.278 - 1.169)	(0.259 - 1.105)
Asian	0.707	0.687	0.820	1.016
	(0.246 - 2.033)	(0.234 - 2.017)	(0.275 - 2.445)	(0.363 - 2.842)
Native	1.209	1.226	0.801	0.641
	(0.349 - 4.194)	(0.349 - 4.305)	(0.189 - 3.388)	(0.129 - 3.190)
Control Variables				
Age	1.078	1.037	1.049	1.088
	(0.903 - 1.286)	(0.846 - 1.270)	(0.872 - 1.262)	(0.944 - 1.253)
Male	0.956	0.963	1.018	1.029
	(0.575 - 1.589)	(0.588 - 1.576)	(0.620 - 1.672)	(0.628 - 1.686)
Family Structure				
Intact Family		0.305**	0.378**	0.450**
		(0.121 - 0.766)	(0.145 - 0.981)	(0.226 - 0.893)
Family SES				
Below FPL[a]			2.007**	0.965
			(1.047 - 3.847)	(0.498 - 1.870)
100%-200% FPL[a]			2.480***	1.677*
			(1.414 - 4.348)	(0.965 - 2.913)
Financial Hardship			1.469	1.216
(food & rent)			(0.924 - 2.336)	(0.752 - 1.967)
Housing Crowdedness			1.112	1.120*
			(0.956 - 1.294)	(0.982 - 1.277)
House Ownership			1.389	1.555
			(0.738 - 2.614)	(0.898 - 2.691)
Parental Education[b]			0.927**	0.953
			(0.860 - 0.998)	(0.893 - 1.017)
Healthcare Factors				
No Insurance				2.191*
				(0.934 - 5.138)
Public Insurance				4.595***
				(2.525 - 8.362)
Satisfied with Quality				0.941
of Medical Care				(0.740 - 1.196)

N=13,169; Odds ratios are presented; 95% confidence intervals in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.
b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

Table 6: Effect of Race/Ethnicity on Limiting Health Condition (Age 6-11)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	2.041*	1.859*	1.340	1.256
	(0.934 - 4.461)	(0.895 - 3.864)	(0.749 - 2.397)	(0.699 - 2.256)
Latino	1.261	1.204	0.975	0.931
	(0.855 - 1.860)	(0.818 - 1.772)	(0.621 - 1.532)	(0.608 - 1.427)
Asian	1.294	1.384	1.800	1.469
	(0.469 - 3.566)	(0.527 - 3.633)	(0.690 - 4.692)	(0.499 - 4.329)
Native	2.397	2.171	1.785	1.564
	(0.823 - 6.981)	(0.702 - 6.713)	(0.554 - 5.753)	(0.558 - 4.385)
Control Variables				
Age	1.137**	1.131**	1.162***	1.163***
	(1.028 - 1.257)	(1.024 - 1.250)	(1.058 - 1.277)	(1.055 - 1.281)
Male	1.883***	1.968***	2.080***	2.061***
	(1.287 - 2.756)	(1.370 - 2.828)	(1.478 - 2.927)	(1.466 - 2.897)
US-born	2.346**	2.189*	3.097**	2.801**
	(1.000 - 5.503)	(0.903 - 5.305)	(1.180 - 8.129)	(1.031 - 7.608)
Family Structure				
Intact Family		0.480***	0.631**	0.650**
		(0.329 - 0.701)	(0.432 - 0.920)	(0.444 - 0.952)
Family SES				
Below FPL[a]			2.957***	1.871**
			(1.777 - 4.919)	(1.038 - 3.374)
100%-200% FPL[a]			1.570*	1.391
			(0.982 - 2.513)	(0.837 - 2.313)
Financial Hardship			1.656***	1.440*
(food & rent)			(1.180 - 2.326)	(0.996 - 2.082)
Housing Crowdedness			0.711*	0.676*
			(0.480 - 1.054)	(0.446 - 1.024)
House Ownership			0.710*	0.754
			(0.492 - 1.025)	(0.509 - 1.116)
Parental Education[b]			0.978	0.990
			(0.933 - 1.025)	(0.945 - 1.037)
Healthcare Factors				
No Insurance				0.936
				(0.587 - 1.492)
Public Insurance				3.118***
				(1.965 - 4.946)
Satisfied with Quality				0.799***
of Medical Care				(0.696 - 0.916)

N=12109; Odds ratios are presented; 95% confidence intervals in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.
b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

Table 7: Effect of Race/Ethnicity on Limiting Health Condition (Age 12-17)

	(1)	(2)	(3)	(4)
Race/Ethnicity				
Black	1.152	1.089	0.921	0.905
	(0.647 - 2.052)	(0.604 - 1.964)	(0.502 - 1.690)	(0.493 - 1.660)
Latino	0.978	0.958	0.778	0.796
	(0.652 - 1.467)	(0.632 - 1.452)	(0.504 - 1.203)	(0.520 - 1.219)
Asian	0.289**	0.295**	0.293**	0.283**
	(0.112 - 0.745)	(0.114 - 0.764)	(0.111 - 0.774)	(0.106 - 0.754)
Native	3.435*	3.097	2.401	2.554
	(0.872 - 13.527)	(0.707 - 13.564)	(0.628 - 9.178)	(0.667 - 9.786)
Control Variables				
Age	0.961	0.962	0.957	0.960
	(0.879 - 1.050)	(0.880 - 1.051)	(0.875 - 1.046)	(0.878 - 1.049)
Male	2.258***	2.254***	2.313***	2.299***
	(1.648 - 3.093)	(1.647 - 3.084)	(1.674 - 3.196)	(1.663 - 3.180)
US-born	1.013	1.006	0.941	0.870
	(0.451 - 2.273)	(0.443 - 2.287)	(0.418 - 2.117)	(0.391 - 1.933)
Family Structure				
Intact Family		0.666**	0.744	0.759
		(0.456 - 0.971)	(0.505 - 1.095)	(0.514 - 1.121)
Family SES				
Below FPL[a]			0.885	0.825
			(0.517 - 1.517)	(0.463 - 1.470)
100%-200% FPL[a]			0.958	0.965
			(0.628 - 1.462)	(0.639 - 1.456)
Financial Hardship			2.431***	2.350***
(food & rent)			(1.808 - 3.269)	(1.728 - 3.196)
Housing Crowdedness			0.930	0.933
			(0.718 - 1.205)	(0.726 - 1.199)
House Ownership			1.051	1.060
			(0.711 - 1.556)	(0.706 - 1.591)
Parental Education[b]			0.972	0.970
			(0.935 - 1.010)	(0.932 - 1.010)
Healthcare Factors				
No Insurance				0.745
				(0.462 - 1.202)
Public Insurance				1.271
				(0.812 - 1.989)
Satisfied with Quality				0.924
of Medical Care				(0.807 - 1.057)

N=13952; Odds ratios are presented; 95% confidence intervals in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

a. "200% FPL and above" is the reference category. FPL stands for federal poverty level. Poverty thresholds, for different family sizes and composition, are revised each year by the Census Bureau.

b. Parental education is measured by the highest grade or level of school achieved by the parent that has higher education.

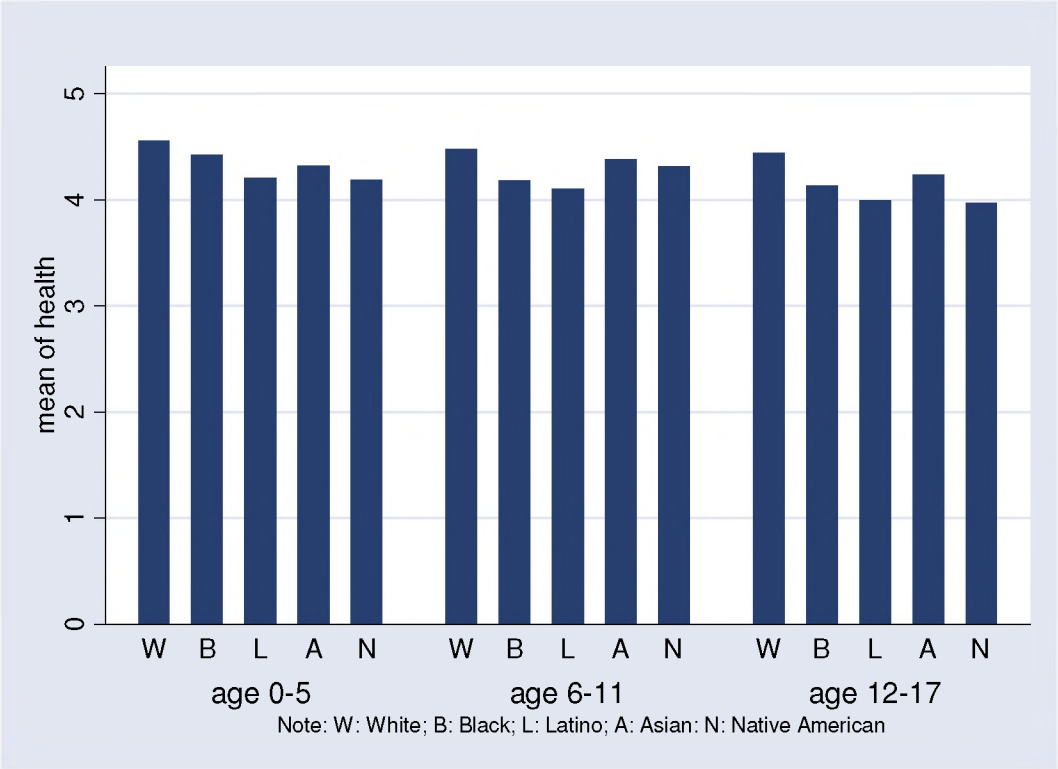

Figure 1: Raw Scores of Parent-rated Child Health, Stratified by Race/Ethnicity and by Age Groups

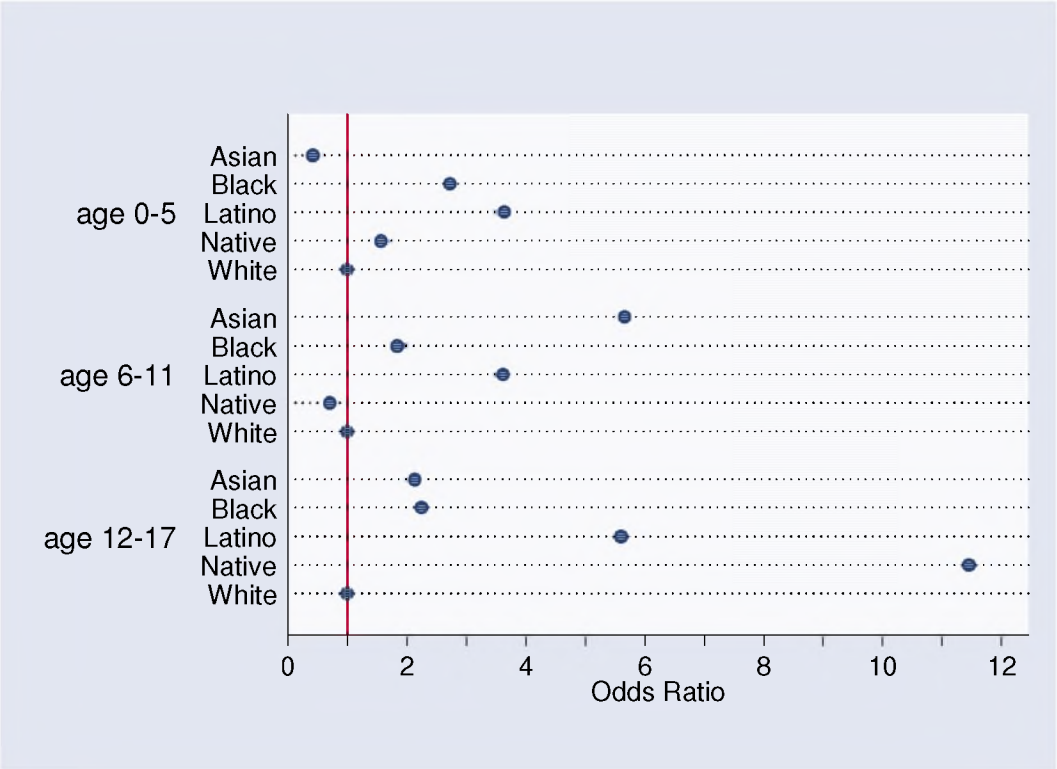

Figure 2: Odds Ratio of Parent-Rated Fair/Poor Child Health, Stratified by Age Groups, Controlling for Age, Gender, and Nativity